CASIO

CASIO

OH-7000G

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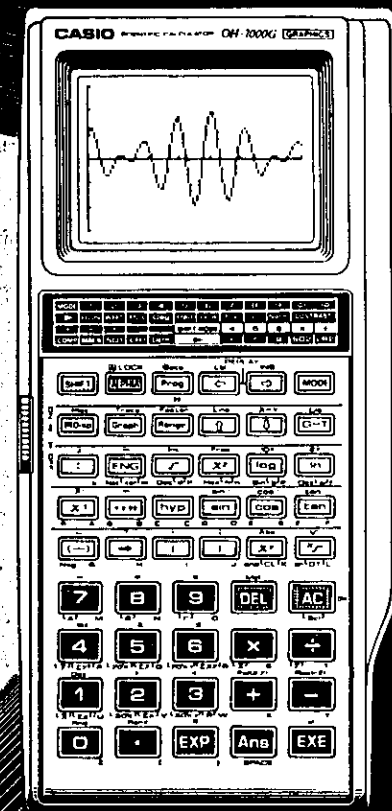

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1. Introduction

Congratulations on your selection of the CASIO OH-7000G. This innovative graphic scientific calculator features a special transparent display, so you can place it onto an overhead projector and project the contents of the display onto a screen. Its compact, lightweight design means you can carry it along anywhere, making it the perfect presentation tool for the classroom, boardroom, or any other presentation environment.

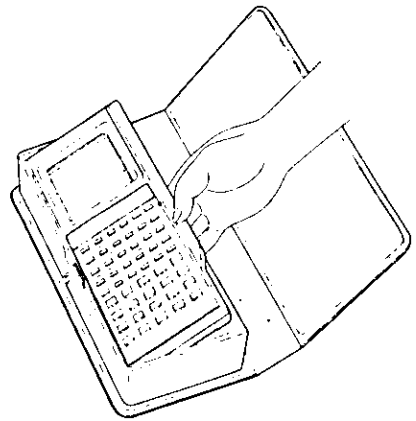
- The information contained herein is subject to change without notice.
- Reproduction of this manual either in part or its entirety is forbidden.
- Note that the manufacturer assumes no responsibility for any injury or loss incurred while using this manual.

All of the explanations in this manual assume that you have already read the fx-7000GA owner's manual that also comes with this product. Note that except for dimensions, weight, power supply, battery replacement procedures, transparent display, and overhead project capabilities, the OH-7000G is identical to the fx-7000GA.

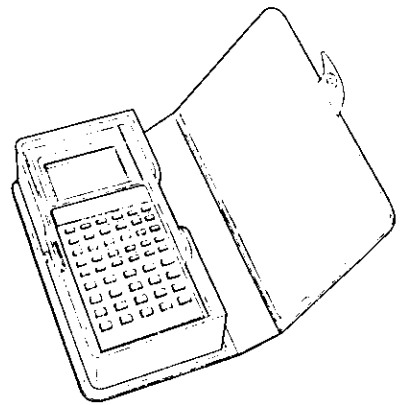
● Hard Case

The hard case supplied with the OH-7000G is designed to protect it against impact and dirt. We recommend that you keep the OH-7000G in its hard case whenever you are not using it with an overhead projector.

1. To remove the OH-7000G from the hard case



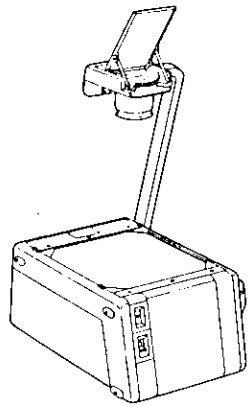
2. To put the OH-7000G into the hard case.



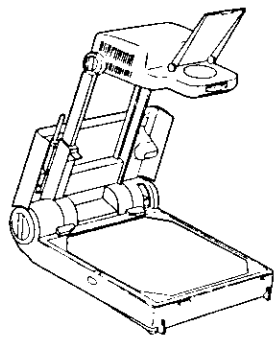
2. General Precautions

- The OH-7000G is designed for use with transmission (bottom projector) type overhead projectors. It cannot be used with reflection type overhead projectors. Also note that certain types of transmission (bottom projector) type overhead projectors produce better results. High luminance projectors (rated at 700 W) may cause blotches to appear on the display of the OH-7000G, especially during presentations that take long periods of time. In such cases, use an overhead projector with a wattage rating that is less than 700 W.
  Check the rated wattage of overhead projector that will be available for your presentation before planning to use the OH-7000G.

Transmission Type OHP
(Example)



Reflection Type OHP
(Example)

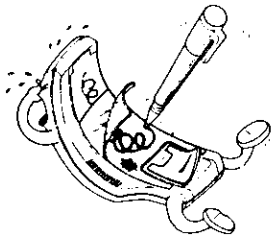


- Note that the surface of the OH-7000G can become very hot after long use with an overhead projector. The bottom surface of the unit can become especially hot. Handle the unit carefully after use with a projector to avoid burns.

- To avoid heat-related problems, remove the OH-7000G from the overhead projector whenever possible (when projection of the OH-7000G image is not necessary) to avoid problems caused by overexposure to heat. It is also a good idea to switch off the power or the lamp of your overhead projector when it is not being used for projection.
- The special heat-resistant display of the OH-7000G protects it against damage from heat generated by the overhead projector lamp. Note, however, that the OH-7000G should not be used in environment in which room temperature exceeds 30°C.

- Low room temperature can cause the liquid crystal display of the OH-7000G to become dim and difficult to read. Use the unit at room temperatures above 10°C.

- The silver foil on the back of the OH-7000G is put there to reflect heat. Do not cover this foil, write on it, or otherwise cause it to become soiled. Doing so can hinder the unit's ability to resist heat damage.



- Never place the OH-7000G face down on the projector.
- The special heat resistant display used for the OH-7000G makes images appear to have a more reddish tinge than the images on standard calculators. It also makes the display a bit dimmer than standard calculators. This is no cause for alarm, however, and the image shows up clearly when the unit is used in combination with an overhead projector.
- To allow clear projection of the displayed image, no layer of glass is used to protect the surface of the liquid crystal display. Be careful when handling the unit, and never touch the unit with hard, pointed objects, such as pens, pencils, etc.
- When using the OH-7000G with a projector, place it's display in the center of the stage of the projector.

YES NO

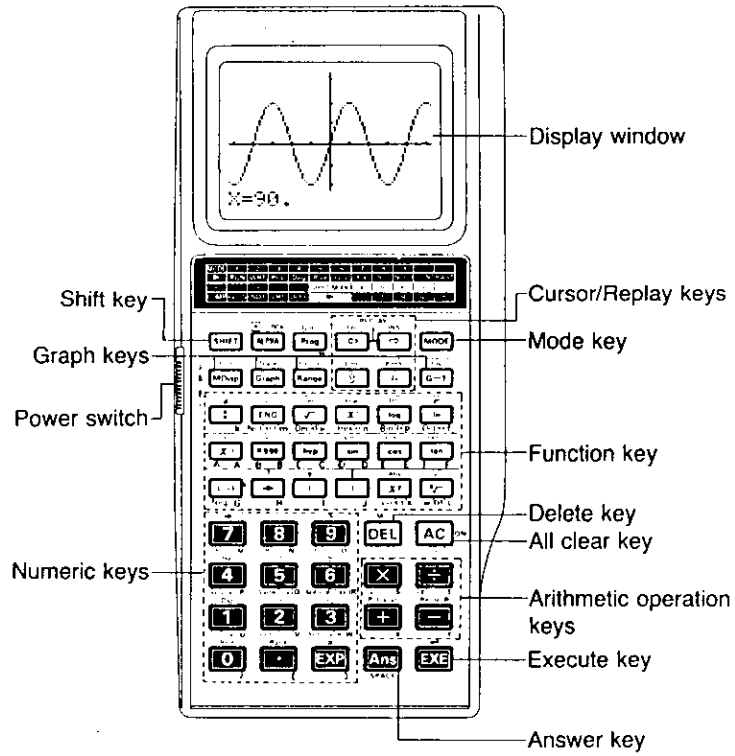
- Place the OH-7000G into its hard case whenever you are not using the unit with an overhead projector.
- Should the display of the OH-7000G becomes soiled, wipe it off as soon as possible with a soft cloth. Never use thinner, benzine, or other volatile chemical to clean the display.
- Be sure to read the manual for the overhead projector you are using for other precautions regarding its use.
- Casio assumes no responsibility or liability for any problems or damage caused by use of the OH-7000G.

* You cannot change the size of the projected image unless the overhead projector you are using is equipped with a function that lets you vary the image size. To enlarge the projected image, use an overhead projector with an enlargement function. Note, however, that projectors that enlarge images by raising and lowering the stage tend to generate high temperatures on the stage. Therefore, we recommend that you avoid using such projectors.

3. Overhead Projector Precautions

- The overhead projector is a precision optical instrument. Carefully read the manual for the particular model you are using for information on such procedures as focusing, enlargement, reduction, etc.
- Some overhead projectors include controls that let your enlarge or reduce the projected image. If your projector does not have such controls, you might be able to adjust the size of the image by moving the projector closer to or farther from the screen. Note that doing so, however, may make the projected image appear to be out of focus or dim.

4. General Guide



5. About the Power Supply

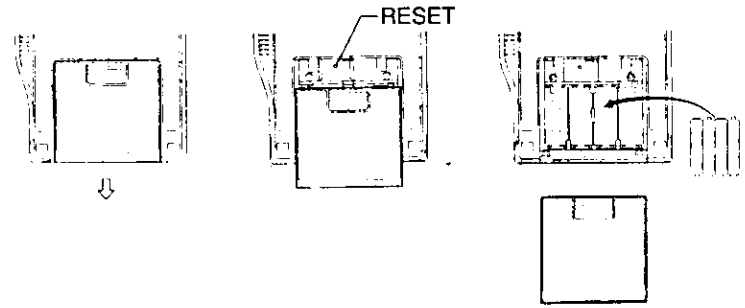
This unit is powered by four R1 (UM-5)/LR1 (AM5) batteries.

Precautions:
Incorrectly using batteries can cause them to burst or leak, possibly damaging the interior of the unit. Note the following precautions:

- Be sure that the positive (+) and negative (−) poles of each battery are facing in the proper direction.
- Never mix batteries of different types.
- Never mix old batteries and new ones.
- Never leave dead batteries in the battery compartment.
- Remove the batteries if you do not plan to use the unit for long periods.
- Replace the batteries at least once a year, no matter how much the unit is used during that period.
- Never try to recharge the batteries supplied with the unit.
- Do not expose batteries to direct heat, let them become shorted, or try to take them apart.
- Should a battery leak, clean out the battery compartment of the unit immediately, taking care to avoid letting the battery fluid come into direct contact with your skin.

To load batteries for the first time

1. Switch the power of the OH-7000G off.
2. Slide the battery compartment cover on the back of the unit in the direction indicated by the arrow.
3. Load the four manganese dry batteries that come with the unit, ensuring that their plus (+) and minus (−) ends are facing in the correct directions.
4. Switch the power of the OH-7000G on.
5. Press the RESET button.
6. Replace the battery compartment cover, sliding in the direction opposite that indicated by the arrow.



- Batteries that are left in the battery compartment for more than one year can leak, causing damage to the unit. Replace batteries at least once every year, regardless of how much you use the unit during that time.

Replacing batteries
Any of the following symptoms can indicate that battery power is too low, and batteries should be replaced as soon as possible.

- Dimming of display during operation
- No display when power is switched on
- Dim display even when contrast is adjusted
- Clearing of display during operation

Important

- Replace all four batteries with new ones.
- Replacing batteries clears all programs and data contained in memory. Be sure to make back up copies of programs and data before replacing batteries.
- Use only the batteries recommended by the manufacturer.

To replace batteries

1. Switch the power of the OH-7000G off.
2. Slide the battery compartment cover on the back of the unit in the direction indicated by the arrow.
3. Remove all four of the old batteries by pressing towards the negative (−) side of each battery and lifting up.
4. Load four new batteries, ensuring that their plus (+) and minus (−) ends are facing in the correct directions.
5. Switch the power of the OH-7000G on.
6. Press the RESET button.
7. Replace the battery compartment cover, sliding in the direction opposite that indicated by the arrow.

Important

- If battery power drops below a certain level memory and program contents will be cleared from memory. In such a case, replace batteries, and then press the RESET button with a thin, pointed object to fully clear memory contents before using the unit.
- Be sure that the plus (+) and minus (−) ends of the batteries are facing in the proper directions when you load batteries. Reversing the batteries can seriously damage your calculator.

About the low battery function

The OH-7000G is equipped with a low battery indicator function. The following symptoms indicate that battery power is getting critically low and that batteries should be replaced as soon as possible.

Low battery power is indicated when the unit is switched on, by:

- Clearing of the display
- No display when the [AC] ON key is pressed

Low battery power is indicated when the unit is switched off, by:

- No display when the unit is switched on.

6. Using the OH-7000G

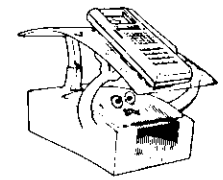
After using the procedures described in the fx-7000GA Owner's Manual to produce a graph, formula, or other data on the display of the OH-7000G, place the OH-7000G onto the stage of an overhead projector and focus the projected image.

The OH-7000G is designed to that the bottom surface of its display does not come into direct contact with the glass of the projector's stage. This means that you probably have to adjust the focus of the projector each time you switch between display of an OH-7000G image and an image on an OHP slide.

To project an OH-7000G display

1. Set up an overhead projector.
2. Use the procedures described in the fx-7000GA Owner's Manual to display a graph, formula or other data on the OH-7000G.
3. After the desired data is displayed, place the OH-7000G onto the display of the projector.
4. Adjust the focus and brightness of the projector, and the contrast setting of the OH-7000G ([MODE] [▽] / [MODE] [△]) until the desired image is obtained.

- Be sure to check the owner's manual for the overhead projector unit being used for full details on methods to use for image enlargement, focusing, etc.
- The OH-7000G unit weighs 223 g (7.9 oz). If the overhead projector you are using has and enlargement function that involve raising and lowering of its stage, be sure to confirm that the stage is capable of supporting the weight of the OH-7000G.



- Avoid using the tip of a pen, pencil, pointer or other sharp object to point directly on the display of the OH-7000G. Doing so can damage its display.
- If the OH-7000G is left on the stage of the projector, the image on its display may gradually become difficult to see. This is caused by changes in the temperature of the liquid crystal and no cause for alarm. Simply adjust the contrast of the OH-7000G (MODE ▽/MODE △) until the desired image is obtained. The color of the liquid crystal is very sensitive to temperature, and a contrast setting under some particular conditions does not guarantee the same results under similar conditions. This means that you should watch the image quality during your presentation and make adjustments as required.

Specifications

Model: OH-7000G

Computations

Basic computation functions:	Negative numbers, exponents, parenthetical addition/subtraction/multiplication/division (with priority sequence judgememt function-true algebraic logic).
Built-in functions:	Trigonometric/inverse trigonometric functions (units of angular measurement: degrees, radians, grads), hyperbolic/inverse hyperbolic functions, logarithmic/exponential functions, reciprocals, factorials, square roots, cube roots, powers, roots, squares, decimal-sexagesimal conversions, binary-octal-hexadecimal conversions/computations, coordinate transformations, π, random numbers, absolute values, integers, fractions.
Statistical computation functions:	Standard deviation–number of data, sum, sum of squares, mean, standard deviation (two types) Linear regression–number of data, sum of x, sum of y, sum of squares of y, sum of squares of x, mean of x, mean of y, standard deviation of x (two types), standard deviation of y (two types), constant term, regression coefficient, correlation coefficient, estimated value of x, estimated value of y.
Memories:	26 standard (78 maximum)
Computation range:	$\pm 1 \times 10^{-99} \sim \pm 9.999999999 \times 10^{99}$ and 0. Internal operation uses 13-digit mantissa.
Rounding:	Performed according to the specified number of significant digits or the number of specified decimal places.

Programs

Number of steps: 422 maximum

Jump function: Unconditional jump (Goto), 10 maximum
Conditional jump ($=$, $\neq$, $>$, $<$, $\geqq$, $\leqq$)
Count jumps (Isz, Dsz)

Subroutines: 9 levels

Number of stored programs: 10 maximum (P0 to P9)

Check function: Program checking, debugging, deletion, addition, etc.

Graph function

Built-in function graphs: (20 types) sin, cos, tan, $\sin^{-1}$, $\cos^{-1}$, $\tan^{-1}$, sinh, cosh, tanh, $\sinh^{-1}$, $\cosh^{-1}$, $\tanh^{-1}$, log, ln, 10^x, e^x, x^2, $\sqrt{\ }$, $\sqrt[3]{\ }$, x^{-1}

Graph commands: Graph, Range, Plot, Trace, Factor, Line, X⟷Y, Instant factor

Graphs: User generated functions, statistical graphs (bar graphs, line graphs, normal distribution curves, regression lines)

Common section

Power supply: Four N-size manganese dry batteries (R1(UM-5)/LR1(AM5))

Power consumption: 0.04W

Battery life: Approximately 100 hours on battery type R1(UM-5)
Approximately 130 hours on battery type LR1(AM5)

Auto power off: Power is automatically switched off approximately 6 minutes after last operation.

Ambient temperature range: 10°C–30°C (50°F–86°F)

Dimensions: 20.5 mmH x 90.2 mmW x 189.6 mmD (¾"H x 3½"W x 7½"D)

Weight: 223 g (7.9 oz) including batteries

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